Physics

Time Remaining: 45/45 (Minutes)

Q.1 | Test 2 Motion & Force | Physics Unit Wise

The rate of change of momentum of a freely falling body in a Non-resistive medium is:

A) Equal to its weight
B) Greater than mg
C) Less than mg
D) Zero

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Correct Answer:

A B C D

Next

Physics

Time Remaining: 44/45 (Minutes)

Q.2 | Test 2 Motion & Force | Physics Unit Wise

A projectile is fired at 60o with 100m s-1. Velocity at maximum height is

A) 0 ms^{-1}
B) 25 ms^{-1}
C) 50 $m\ s^{-1}$
D) 20 ms^{-1}

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Correct Answer:

A B C D

Next

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Physics

Time Remaining: 44/45 (Minutes)

Q.3 | Test 2 Motion & Force | Physics Unit Wise

Which of following changes when particle is moving with uniform velocity?

A) speed
B) acceleration
C) velocity
D) position vector

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Correct Answer:

A B C D

Next

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Time Remaining: 44/45 (Minutes)

Q.4 | Test 2 Motion & Force | Physics Unit Wise

A force of 25N acts on a body for 20 seconds. What will be the change in momentum

A) 5Ns
B) 500 Ns
C) 200 Ns
D) 800 Ns

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Correct Answer:

A B C D

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Time Remaining: 44/45 (Minutes)

Q.5 | Test 2 Motion & Force | Physics Unit Wise

At maximum height K.E of projectile is $\frac{1}{4}$ th of its initial K.E. The angle of projection is

A) 30°
B) 45°
C) 60°
D) 76°

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Correct Answer:

A B C D

Next

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Time Remaining: 44/45 (Minutes)

Q:6 | Test 2 Motion & Force | Physics Unit Wise

Two balls have K.E ratio 2 : 1 and masses ratio 2 : 1. The ratio of their momentum is

A) 2 : 1
B) 1 : 2
C) 4 : 1
D) 1 : 4

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Correct Answer:

A B C D

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Time Remaining: 44/45 (Minutes)

Q.7 | Test 2 Motion & Force | Physics Unit Wise

A car is travelling with uniform acceleration along a straight road. The road has marker posts every 100 m. when the car passes one post, it has a speed of 10 ms^{-1} and, when it passes the next one, its speed is 20 ms^{-1}. What is the car's acceleration?

A) 0.67 ms^{-2}
B) 6.0 ms^{-2}
C) 2.5 ms^{-2}
D) 1.5 ms^{-2}

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Correct Answer:

A B C D

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Time Remaining: 44/45 (Minutes)

Q:8 | Test 2 Motion & Force | Physics Unit Wise

Which shows the correct relation between time of flight T and maximum height H?

A) $H = \frac{gT^2}{8}$

B) $H = \frac{8T^2}{g}$

C) $H = \frac{8g}{T^2}$

D) $H = \frac{8}{gT^2}$

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Correct Answer:

A B C D

Next

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Time Remaining: 44/45 (Minutes)

Q.9 | Test 2 Motion & Force | Physics Unit Wise

A crow fly 40 m is north and then 30 m in east. The ratio of his distance to displacement

A) 1.4
B) 1.2
C) 1.5
D) 1.8

Click Here if Image Doesn't Load

Correct Answer:

A B C D

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Time Remaining: 43/45 (Minutes)

Q.10 | Test 2 Motion & Force | Physics Unit Wise

What is rate of change of momentum when 4N force acts on a mass 2 kg for 2s

A) 1 kg ms^{-2}
B) 2 kg ms^{-2}
C) 4 kg ms^{-2}
D) 8 kg ms^{-2}

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Correct Answer:

A B C D

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Time Remaining 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A force of 5F acts on a body of mass 30 kg producing acceleration 50 m/s². If 2F force acts on a body of mass M it produces acceleration 60 ms⁻². What is mass M

A) 10 kg
B) 20 kg
C) 30 kg
D) 40 kg

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Time Remaining: 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A body is projected at $\theta=45°$ with initial velocity $v_i=10m/s$ the range is

A) 10 m
B) 100 m
C) 50 m
D) 25 m

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A B C D

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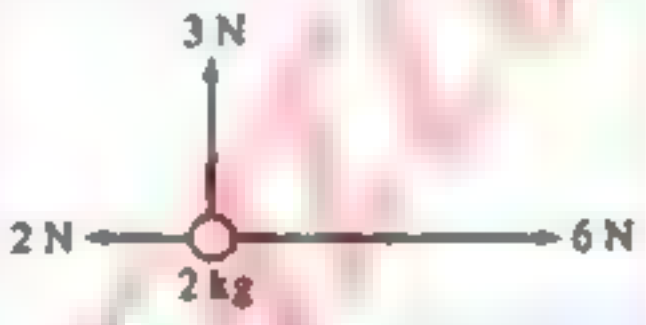
Time Remaining: 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The figure below shows the forces acting on an object of mass 2 kg. What is the object's acceleration?

A) 2 m/s²
B) 3 m/s²
C) 2.5 m/s²
D) 3.5 m/s²



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Time Remaining 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A foot ball is thrown upward with an angle of 30° with respect to the horizontal. To throw a 40 m pass what must be the initial speed of the ball?

A) 10 ms^{-1}

B) 30 ms^{-1}

C) 21 ms^{-1}

D) 5 ms^{-1}

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Time Remaining 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

No body begin to move or comes to rest itself is statement of

A) Newton
B) Abu Ali Sena
C) Maxwell
D) Planck's

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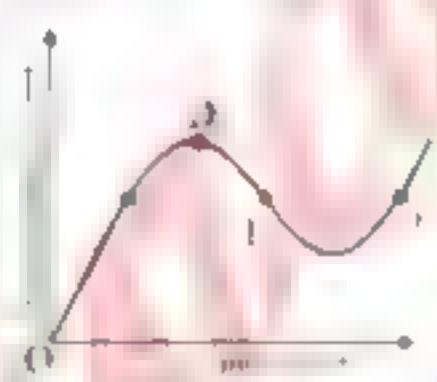
Time Remaining 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The displacement time graph for a moving particle is given below. instantaneous velocity of the particle is negative at the point.

A) D
B) F
C) C
D) E



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Point Answer

A B C D

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Time Remaining 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The ratio of magnitudes of average velocity to average speed of a moving body in a straight line

A) always less than one
B) always equal to one
C) always more than one
D) equal to or more than one

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Time Remaining: 43/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

If body is falling freely, distance covered in 3 second is ($g = 10ms^{-2}$)

A) 45m
B) 90m
C) 54m
D) 25m

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The "reaction" force does not cancel the "action" force because:

A) the action force is greater than the reaction force

B) they act on different bodies

C) they act in the same direction

D) the reaction force is greater than the action force

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The slope of v-t graph for uniform velocity is

A) 0
B) Positive
C) Negative
D) Positive or negative

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Time Remaining 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

When projectile is projected in XY-plane then v_y

A) Remains same
B) Goes on increasing with height
C) Goes on decreasing with height
D) First increases then decreases

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A B C D

Next

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

To improve the jumping record, a long jumper should jump at an angle of:

A) 30°
B) 60°
C) 45°
D) 90°

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A car, initially at rest, travels 20 m in 4 s along a straight line with constant acceleration.
The acceleration of the car is:

A) 0.4 m/s²
B) 1.3 m/s²
C) 2.5 m/s²
D) 4.9 m/s²

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A baseball is hit straight up and is caught by the catcher 2.0 s later. The maximum height of the ball during this interval is:

A) 4.9 m
B) 7.4 m
C) 9.8 m
D) 12.6 m

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The range of projectile is directly proportional to

A) $\sin^2\theta$
B) $\sin\theta$
C) $\sin 2\theta$
D) $2\sin\theta$

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A B C D

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The distance covered by a body in time "t" starting from rest is

A) at^2

B) $\frac{1}{2}at^2$

C) $2at^2$

D) $\frac{1}{2}a^2t$

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The change of position of a body in a particular direction is called its:

A) Displacement
B) Velocity
C) Acceleration
D) Force

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Time Remaining: 42/45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The total change in displacement divided by the total change in time of body is called its:

A) Average Velocity
B) Instantaneous Velocity
C) Uniform Velocity
D) Speed

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Time Remaining: 41 /45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

The change of displacement in a very small interval of time (time tends to zero) of a body is called its:

A) Average Velocity
B) Instantaneous Velocity
C) Uniform Velocity
D) Uniform speed

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Time Remaining: 47 /45 (Minutes)

Test 2 Motion & Force — Physics Unit Wise

A force acts on a body that is free to move. We know that magnitude and direction of the force and the mass of the body. Newton's second law of motion enables us to determine the body's

A) Acceleration
B) Speed
C) Velocity
D) Force

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Submit Quiz

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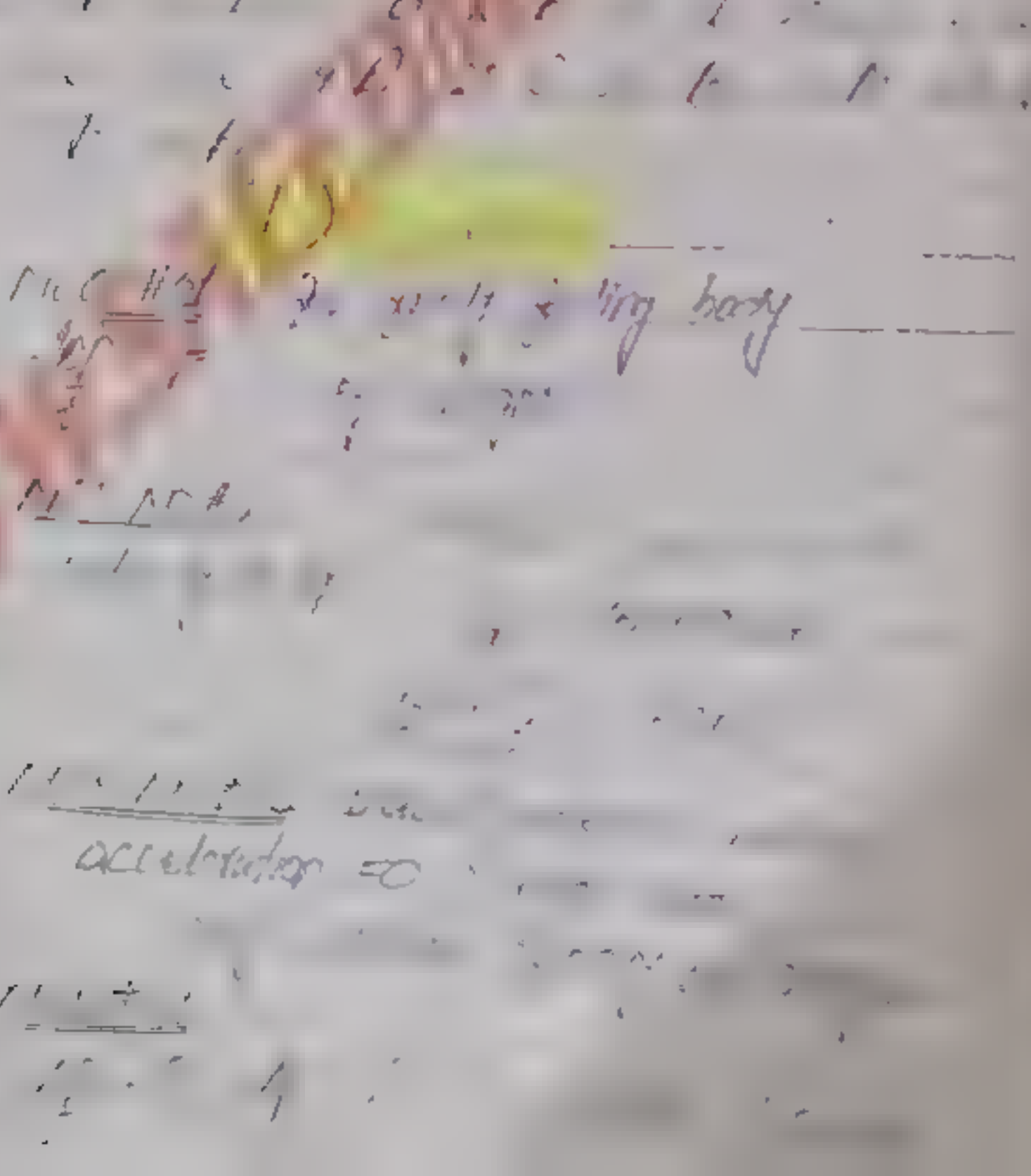


acceleration =

MCQ #05 Kinetic energy of top = $\frac{1}{2}mv^2\cos^2\theta$

$\frac{\text{K.E}_{\text{rotational}}}{4} = \frac{\text{K.E}_{\text{translational}}}{4}\cos^2\theta = \frac{1}{4} = \cos^2\theta$

$\sqrt{\frac{1}{4}} = \sqrt{\cos^2\theta} \Rightarrow \frac{1}{2} = \cos\theta$

$\cos\theta = \frac{1}{2} = 60°$

MCQ NO #06 $P = \sqrt{2mK.E}$

$\frac{P_1}{P_2} = \sqrt{\frac{mK.E}{mK.E}} = \sqrt{\frac{20}{20}} = \sqrt{\frac{1}{1}} = 1:1$

MCQ #07 $S = 100$ $v_1 = 10ms^{-1}$ $v_2 = 20ms^{-1}$

According to $2as = v^2 - u^2$

$a = \frac{v_2^2 - v_1^2}{2S} = \frac{400 - 100}{2\times100}$

$a = \frac{300}{200} = \frac{3}{2} = 1.5$

MCQ #08 $H = \frac{gT^2}{8}$ Relation bw time and height

MCQ #09 Distance - linear quantity.

Displacement - vector quantity.

Scalar quantity simply add to get one vector in direction to find energy by pythagoream theorem can be go.

Distance = north + east Test ya = Jism

Displacement = $\nearrow$ (Hyp)^2 = (altitude)^2 + (base)^2

$(\text{Hypotenuse})^2 = (40)^2 + (30)^2$

$1600 \quad 900 = 2500$

$\text{Hyp} = \sqrt{2500} = 50$

$\frac{\text{Distance}}{\text{Displacement}} = \frac{76}{50} = \boxed{1.4}$

MCQ # 6

$\frac{\Delta p}{t}$ = Force independent of given time and mass in the question Statement

MCQ # 11 Step of find force use

$F = ma \Rightarrow F = (30)(50)$

$F = \frac{30 \times 50}{5} = 30 \times 10 = \boxed{300N}$

Step of

$F = ma$

$a = \frac{F}{m} = \frac{2F}{m} = \frac{2 \times 300}{60}$

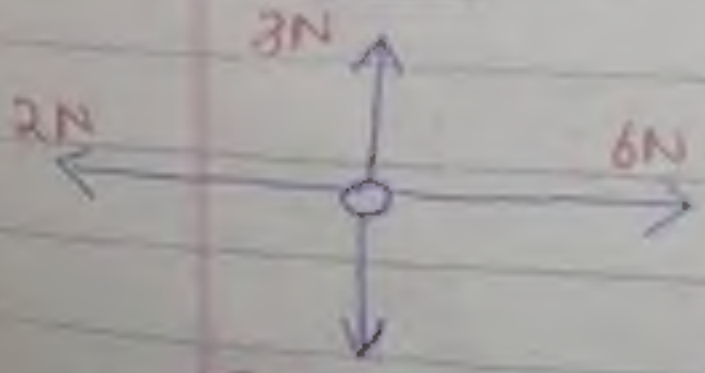
$\boxed{a = 10 m/s^2}$

MCQ # 12

Range maximum $= 45°$

$\boxed{R = \frac{v_i^2}{g}} = \frac{(10)^2}{10} = \frac{100}{10} = \boxed{10m}$

MCQ # 8



find resultant force

$2 - 6 = 4.$

angle b/w 3N and 4N (Resultant force is $90°$)

So we use Pythagorean theorem.

$$(3N)^2 + (4N)^2 = 9+16 = 25N$$

Resultant Force = 5N.

Acceleration $a = \frac{F_R}{m} = \frac{5}{2} = 2.5$ $[F = ma]$

MCQ # 14

$$R = \frac{u_1^2 \sin 2\theta}{g} \Rightarrow u_1^2 = \frac{gR}{\sin 2\theta}$$

$$u_1^2 = \frac{10 \times 40}{\sin 2(30^\circ)} = \frac{400}{\sin 60} = \frac{400}{\frac{\sqrt{3}}{2}} = \frac{400}{\sqrt{3}/2}$$

$$\Rightarrow \frac{400 \times 10}{8} = \frac{4000}{8} = 500$$

$$\sqrt{u_1^2} = \sqrt{500} \quad u_1 = 25\,ms^{-1}$$

nearly equal to $21\,ms^{-1}$ in given Statement.

MCQ # 15

MCQ # 16 -ive Slope $\theta > 90^\circ$

(acceleration = -ive)

MCQ # 17 (At uniform Situation)

Average Speed = Average velocity

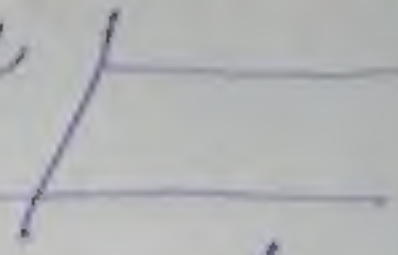
MCQ # 18 For Body falling body. $S = \frac{gt^2}{2}$ shortcut

$$S = \frac{10 \times (3)^2}{2} = \frac{10 \times 9}{2} = 45\,m$$

MCQ # 19

MCQ # 20

Horizontal line



0 = slope

So acceleration = 0

MCQ # 21

MCQ # 22

MCQ # 23 $S = u_i t + \frac{1}{2} a t^2$ $u_i = 0$

$S = \frac{1}{2} a t^2 = a \cdot \frac{2.5}{1^2} = \frac{2 \times 20}{16} = \boxed{\frac{40}{16}}$

MCQ # 24 1s ↑ ↓ 1s total time = 2s

To reach max height time = 1s

So

for height = $\boxed{\frac{gt}{2}} = \frac{10 \times 1}{2} = \boxed{5m}$

MCQ # 25 $R = \frac{u_i^2 \sin 2\theta}{g}$ $\boxed{R \propto \sin 2\theta}$

MCQ = 26 $S = u_i t + \frac{1}{2} a t^2$ if $u_i = 0$

$\boxed{S = \frac{1}{2} a t^2}$

MCQ # 27 Change in Position = Displacement
(Book ki line hai)

MCQ 28

MCQ # 29

MCQ # 30